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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,253	07/11/2003	Kyung-Chool Choi	1293.1772	2437

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EXAMINER
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CAVALLARI, DANIEL J

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/617,253

Applicant(s)

CHOI ET AL.

Examiner

Daniel J. Cavallari

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

The examiner acknowledges a submission of the amendment filed on 9/18/2006.

The amendments to the claims and specification are accepted.

### ***Response to Amendment***

The reply filed on 9/18/2006 is not fully responsive to the prior Office Action because: The response fails to adequately address all of the 112 issues. Upon further review, additional 112 issues requiring attention have been found and are discussed below.

Since the period for reply set forth in the prior Office action has expired, this application will become abandoned unless applicant corrects the deficiency and obtains an extension of time under 37 CFR 1.136(a).

The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. In no case may an applicant reply outside the SIX (6) MONTH statutory period or obtain an extension for more than FIVE (5) MONTHS beyond the date for reply set forth in an Office action. A fully responsive reply must be timely filed to avoid abandonment of this application.

### ***Drawings***

The drawing are objected to for the following informalities:

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- Paragraph 33 states that "... 140 outputs the control or driving signal to the power switching unit 160, a photo transistor of a photo coupler PC1 in the power switching unit 160..." however the component 160 is located in the control unit (140).
- Paragraph 35 states that "PC2 of the power switching unit 160" however PC2 is part of the control unit 140.

The drawings are objected to under 37 CFR 1.83(a) because they fail to show the following details as described in the specification.

- The connection of the output "OUT2" (See figures 2 & 3).
- The DC interface between the "electronic machine" (260) and the power switching unit (160) [the examiner notes that Figure 2 shows that the "electronic machine" comprises the "power switching unit" (160) but figure 3 only shows the "power switching unit" (160).
- The specification discloses that the host provides a control signal comprising of a logic voltage level to the power supply control unit (140) to control the power switching unit (160) however the connection as shown in Figure 3 only comprises opto-couplers making it unclear how or where this connection is made (See specification, Paragraph 30).

Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

The specification is objected to for the following reasons:

- The specification states that "AC power is both transformed into DC and transmitted to the power switching unit " (See Paragraph 17) however Figure 3

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shows that the AC signal is rectified by diode IN1 which is supplied to the circuit (160) and further rectified by the rectifier (120). Therefore, the PWM-IC does not receive AC power as stated.

- AC power is rectified by diode (IN1) and not transmitted to resistor R1 or the switching unit (160) (See Paragraph 24).
- It is unclear how the transformer is integrated with the powering switching unit (160) and how power is being used and transferred as the picture is currently drawn in which all transformer winding connections appear to be primary connections. Furthermore, the specification fails to adequately disclose the transformer connections with the unit (160) (See Paragraph 29).
- The specification discloses that the host provides a control signal comprising of a logic voltage level to the power supply control unit (140) to control the power switching unit (160) however the connection as shown in Figure 3 only comprises opto-couplers making it unclear how or where this connection is made (See specification, Paragraph 30).
- The result of the provision or non-provision of DC power is disclosed as being outputted from output port "OUT2" (See Figure 2) however the port is not disclosed in Figure 3 nor is it disclosed how the result of this output is inputted into the rectifier making it unclear how the provision of power is performed (See Paragraph 31).
- Paragraph 31 discloses that the power switching unit (160) is driven by AC power and PWM-IC is switched on or off to control the provision of DC power to the

electronic machine 260 however the electronic machine comprises the switching unit (160) therefore the power switching unit appears to be powering itself.

- Paragraph 32 discloses “if the power switching unit 160 receives non-rectified AC power, but does not receive the control signal from the power supply control unit 140 to drive the PWM-IC 165, no operating power is applied to the PWM-IC 165 in the power switching unit 160. Hence the rectified DC power is not supplied to the electronic machine 260”. The examiner notes the switching unit (160) has been disclosed as comprising the “electronic machine” (260) (See Figure 2) and that the AC input is rectified by diode (IN1) (See Figure 3) therefore AC power is not supplied to the switching unit (160). The examiner further notes that the transformer would produce only AC power making it unclear how DC power would be supplied to the electronic machine (260) via the transformer. Furthermore, the connection of the transformer to the electronic machine (260) is not disclosed in Figure 3.
- Paragraph 33 states that “... 140 outputs the control or driving signal to the power switching unit 160, a photo transistor of a photo coupler PC1 in the power switching unit 160...” however the component 160 is located in the control unit (140).
- Paragraph 35 states that “PC2 of the power switching unit 160” however PC2 is part of the control unit 140.

Appropriate action is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 2, 4, 9, 10, 12, 15, & 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In regard to Claims 1 & 2

It is unclear how AC power is transmitted to the power switching unit and appears that DC power is transmitted via diode IN1 regardless of any control signals and it is unclear how DC power is transmitted to the electronic machine via a transformer which outputs AC power and it is further unclear where the interface between the DC output of the power switching unit and the electronic machine is located.

In regard to Claim 2

The limitation of "a power switching unit, driven by the AC power, that is switched on or off to control provision of the DC power to the electronic machine when the host requests provision of DC power to the electronic machine" is not adequately enabled.



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In regard to Claims 4 & 12

The specification and figures fail to disclose how power would be provided from the host to the control unit.

In regard to Claim 9 & 15

It is unclear what signal or how a signal is transmitted to stop operation of the power switching unit (160).

In regard to Claim 10 & 18

It is unclear how AC power is transmitted to the power switching unit and appears that DC power is transmitted via diode IN1 regardless of any control signals and it is unclear how DC power is transmitted to the electronic machine via a transformer which outputs AC power and it is further unclear where the interface between the DC output of the power switching unit and the electronic machine is located.

Because of the 112 1<sup>st</sup> Paragraph rejections of claims 1, 2, 4, 9, 10, 12, 15, & 18 not art can be applied to claims 1-18.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Cavallari whose telephone number is (571)272-8541. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Daniel Cavallari

November 16, 2006

A handwritten signature in black ink, appearing to read "Chau N. Nguyen". The signature is fluid and cursive, with a long horizontal stroke at the end.

**CHAU N. NGUYEN**  
**PRIMARY EXAMINER**